

**Hickory Hill
Public Hearing Agenda Packet**

EXHIBIT E

**WITHLACOCHEE REGIONAL
PLANNING COUNCIL'S REVIEW AND
RECOMMENDATIONS DATED SEPTEMBER
21, 2006**

**WITHLACOOCHEE REGIONAL PLANNING COUNCIL
REGIONAL REVIEW AND RECOMMENDATIONS
OF THE**

**HICKORY HILL
DEVELOPMENT OF REGIONAL IMPACT
APPLICATION FOR DEVELOPMENT APPROVAL**

HERNANDO COUNTY, FLORIDA

**As Adopted by the
Withlacochee Regional Planning Council Board of Directors
on September 21, 2006**

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PART I: INTRODUCTION

The Florida Land and Water Management Act of 1972 (Chapter 380, Florida Statutes) charged regional planning councils with the responsibility for reviewing proposed developments which, because of their “character, magnitude or location” would have a substantial effect upon the health, safety or welfare of citizens of more than one county.

Specifically, the Statute Subsection {380.06(12)} states the following:

“In preparing its report and recommendations, the regional planning agency shall identify regional issues based upon the following review criteria and make recommendations to the local government on these regional issues, specifically considering whether, and the extent to which:

1. The development will have a favorable or unfavorable impact on state or regional resources or facilities identified in the applicable state or regional plans.
2. The development will significantly impact adjacent jurisdictions.
3. The development will favorably or adversely affect the ability of people to find adequate housing reasonably accessible to their places of employment.

In accordance with these analyses, conclusions and mandates, the following report presents the recommendations of the staff of the Withlacoochee Regional Planning Council concerning the proposed development to be located in Hernando County, Florida. The purpose of this report and recommendations to Hernando County government is to identify the regional impacts that are expected to occur should the proposed project be developed. In carrying out these objectives, the report, through its recommendations, suggests opportunities to eliminate or to mitigate negative impacts that are expected to occur and, where possible, to enhance the positive features of the proposed development.

This report is based largely upon information supplied by the Developer as presented in the Hickory Hill Application For Development Approval (ADA) and sufficiency response information. These documents and any other information supplied by the Developer, including all commitments made by the Developer, are automatically part of this report by reference. However, supplemental information was obtained through onsite inspections and contact with local, regional and state agencies and officials.

The recommendations contained herein are intended to assist Hernando County in reaching its final decision regarding the proposed development. It should be noted that, in accordance with the Florida Statutes, the report and recommendations are generally concerned with regional impacts.

PART II: APPLICATION INFORMATION

Project Description

1. Name of Project: Hickory Hill DRI
2. Developer: Hickory Hill, LLC
Owners: Two Rivers Ranch, Inc.
3. Authorized Agent: Sierra Properties, LLC
4. Type of Development: Multiple Uses
5. Government Jurisdiction: Hernando County, Florida
6. Hearing Schedule: WRPC Hearing: September 21, 2006
Hernando County Planning and Zoning Board ?? 2006
Hernando County Board of County Commissioners January 17, 2007

PART III: DRI PLAN CHARACTERISTICS

Development Summary

The Developer proposes to develop not more than:

- 1,750 single family dwelling units;
- 63 golf holes (3 golf courses & additional 9 hole ‘short’ course) and clubhouse;
- 50,000 square feet of neighborhood commercial
- Average gross density is 1 unit per 1.6 acres
- Open space is 1,110 acres (40% of total acreage)
- Lot sizes range from 1/4 acre to 4 acres
- Minimum square footage of a house is 2,000
- House prices range from \$450,000 to \$1,100,000
- Transitional zone is 1,320 feet

**Table 10.1
Hickory Hill DRI Project Description**

Land Use	Acreage amounts below represent a range of values for the respective land use	Threshold Criteria		
		Gross Sq. Ft.	Dwelling Units	Other Units
Residential-Single Family	?	-	1,750	
Golf Course	?	--		63 holes
Neighborhood Commercial	--	50,000	--	
TOTAL	2,766	50,000	1,750	

Source: Hickory Hill ADA, May 2005.

Specific Project Description

The Hickory Hill DRI site consists of 2,766± acres in southern Hernando County, Florida and is generally described as lying in Sections 11, 12, 13 14, 22, 23, 24 and 26 in Township 23 South and Range 20 East. Map A, which shows the location of the property and the legal description of the project are attached to the Development Order. The property is made up of improved pasture and row crops. The current land use is agri-business and consists of pasture, cattle and row crops.

Table 10.1 outlines the general project description. The Hickory Hill DRI will be constructed in two (2) phases, and consists of 1,750 single family residential units surrounding 63 holes of golf, and 50,000 square feet of neighborhood commercial. The majority of the project consists of Phase 1 which will be constructed between the years 2006 and 2012. The remainder of the project will be constructed in Phase 2 between the years 2013 and 2017. The phasing plan is illustrated as Table 10.2.

**Table 10.2
Hickory Hill DRI Phasing Plan**

Phase 1 (2006-2012)					
Land Use	Units	Phase 1 Development	Cumulative Total Development	Phase 1 Development Acreage	Cumulative Total Development Acreage
Residential-Single Family	du	800	1,750	2,766	2,766
Golf Course	holes	36	63	residential & golf course	residential & golf course
Retail/Office	sq. ft.	0	50,000	--	--

Source: Hickory Hill ADA, May 2005

Phase 2 (2013-2017)					
Land Use	Units	Phase 2 Development	Cumulative Total Development	Phase 2 Development Acreage	Cumulative Total Development Acreage
Residential-Single Family	du	950	1,750	--	2,766
Golf Course	holes	27	63	residential & golf course	residential & golf course
Retail/Office	sq. ft.	50,000	50,000	--	--

Source: Hickory Hill ADA, May 2005

The proposed golf course community will have a clubhouse complex which will contain aquatic and fitness centers. The golf course development will include accompanying clubhouses, driving ranges, maintenance facilities and other typical support uses. The project will have three (3) golf courses with 18 holes each and an additional short course with nine (9) holes. Parks will be incorporated within the development.

There will be several points of access into the development on Lockhart Road , but no direct access to Hickory Hill Road. Baseball Pond Road borders the western portion and Lockhart Road is on the eastern border. The project will also access Church Road to the south.

The proposed 50,000 square feet of neighborhood commercial development will be located along Lockhart Road to be developed during Phase 2. The commercial component is expected to serve the residents of the DRI as well as residents from surrounding areas which will be a service center to the development and the overall community.

The project will include buffers along adjacent land uses to minimize visual impacts. The open space/buffer is not intended to function as a conservation corridor, but it will be a combination of preserved and enhanced woodlands and buffer landscaping which will serve as a buffer from Interstate 75. The developer proposes an overpass over unpaved Hickory Hill Road to provide vehicular access between the north and south sides of the development without disrupting Hickory Hill Road. Wetland impacts to be created on 0.7 acres of wetlands will be located at an existing trail crossing through the wetlands on the southern limits on the property.

The projected population growth in Hernando County indicates an increase of 16,300 persons between 2005 -2010 and a 21% increase between 2005-2015. Therefore, the population increase expected from the DRI is within the general growth scenario anticipated by the Comprehensive Plan.

**Table 10.3
Hernando County Population Projections 2004-2030**

Year	Population	Growth
2004	145,205	
2005	148,400	2.20%
2010	164,700	10.98%
2015	179,500	8.99%
2020	194,200	8.19%
2025	208,400	7.31%
2030	221,600	6.33%

Source: Hickory Hill ADA, May 2005, (Page 10-5.)

- (1) Florida Statistical Abstract 2003, Bureau of Business and Economic Research, University of Florida
- (2) Florida Population Studies: Projection of Florida Population by County, 2004-2030, Bureau of Business and Economic Research, University of Florida

Hickory Hill’s housing prices are proposed by the Developer to range from \$450,000 to \$1,100,000 and are planned to serve the affluent and executive housing market, which the developer claims is presently underserved. Projections regarding the housing market are subject to change, depending on economic conditions. The development will contain both active and passive recreation facilities for its residents. A majority of recreational amenities are focused toward golf courses that are designed to meander through the project. The Developer has committed to comply with County requirement of installation of water conservation fixtures and adherence to water conserving maintenance practices. Where feasible, a method to use reclaimed water for irrigation purposes will be considered.

Table 10.4
Demography and Employment, Hickory Hill DRI

Phase	Dwelling Units	Persons/ Household	Total Population	Children/ Household	School Age Children	Elderly/ Household	Total Elderly
Phase 1 2006-2012	800	2.32	1,856	0.34	272	0.73	584
Phase 2 2013-2017	950	2.32	2,065	0.34	323	0.73	694
TOTAL	1,750	2.32	3,921	0.34	595	0.73	1,278

Source: Hickory Hill ADA, May 2005. (Page 10-14)

Table 10.5
Total Employment at Hickory Hill DRI

Phase	Golf		Retail	
	Holes	Employment	Sq. Ft.	Employment
Phase 1 2006-2012	36	81		
Phase 2 2013-2017	27	60	50,000	84
TOTALS	63	140	50,000	84

Source: Hickory Hill ADA, May 2005.

**Table 10.6
Expected Employment by Income Group**

Income Group	Wage Ranges			Golf Course Employees	Retail Employees
	Low	High	Midpoint		
Very Low	\$8,500	\$8,574	\$8,537	0	5
	\$8,575	\$11,074	\$9,825	20	5
	\$11,075	\$13,574	\$12,325	99	7
	\$13,575	\$16,074	\$14,825	7	9
	\$16,075	\$18,574	\$17,325	0	11
	\$18,575	\$21,074	\$19,825	0	11
	\$21,075	\$23,574	\$22,325	0	11
	\$23,575	\$26,074	\$24,825	1	9
Low	\$26,075	\$29,219	\$27,647	0	8
	\$29,220	\$31,719	\$30,470	0	4
	\$31,720	\$34,219	\$32,970	0	2
	\$34,220	\$36,719	\$35,470	2	1
	\$36,720	\$39,219	\$37,970	2	1
	\$39,220	\$41,719	\$40,470	4	0
Moderate	\$41,720	\$45,080	\$43,400	3	0
	\$45,081	\$47,580	\$46,331	0	0
	\$47,581	\$50,080	\$48,831	0	0
	\$50,081	\$52,580	\$51,331	0	0
	\$52,581	\$55,080	\$53,831	1	0
	\$55,081	\$57,580	\$56,331	0	0
	\$57,581	\$60,080	\$58,831	0	0
	\$60,081	\$62,580	\$61,331	0	0
Greater than \$62,580				1	0
TOTAL				140	84

Source: Hickory Hill ADA, Page 10-15, May 2005; Fishkind and Associates, Inc.

An analysis of the above table (Table 10.6) indicates that the total number of jobs to be created (both golf course and retail employees) is 224 of which 195 (87%) jobs will be in the very low income group. Approximately 11% of the jobs will be in the low income category.

The provision of adequate schools is an important consideration for this development. Hickory Hill DRI is not age restricted and therefore the potential for a large school age population is present. Additionally, the commercial component of the community is projected to bring additional growth and jobs to the area. The proposed development has no school or school site and relies on the ad valorem tax revenue from the completed project to generate the funds for school impacts.

Revenue Generation Summary

The Hickory Hill DRI, if built as proposed, will generate significant ongoing economic benefits to Hernando County, and the School Board, over time. The major operating revenue will be generated by ad valorem, sales tax, utility taxes, service fees and other major revenues. The estimated operating revenue is estimated to reach \$10.7 million at build out.

The Developer's economic consultant has projected specific revenues as follows:

- \$9.3 million in ad valorem revenue each year at build out
- \$4.5 million in impact fee revenue
- \$77,500 in half-cent sales tax revenue
- \$201,000 in local option gas tax revenue
- \$9.9 million ad valorem for the School Board based on current millage rates
- \$4.2 million for the School District in impact fee revenues
- \$292,000 for the Withlacoochee Basin from ad valorem revenues
- \$610,000 for the Emergency Medical Services District from ad valorem revenues

Property taxes were calculated using 85% of the sales price, less the Homestead Exemption, and multiplied by the appropriate millage rate.

PART IV: WRPC OBSERVATIONS AND RECOMMENDATIONS

VEGETATION AND WILDLIFE (Question 12)

The proposed project site has been used for agricultural activities in the past and currently a large portion of the Hickory Hill parcel is improved pasture where the dominant plant species is Bahia grass. The site has many large fields that are used for crops and cattle feed. The fields are planted in a rotation with rye, hay and millet. Upland forest is found on 56.5 acres. The several residences that were previously a part of this farm are being cut out of the development as out parcels. There is also a single cell phone tower which occupies the property.

Numerous small, isolated areas of wetlands are depicted onsite in a complex drainage system of small wet pockets connected by stream flow patterns that are precipitated by the undulating topography. The general topography of the site is that of rolling hills when, combined with the pasture areas, wetlands and mature forest, create a high degree of habitat diversity. Large portions of the site are designated as “Biodiversity Hot Spots” relating to 7+ focal species in the study: “Closing the Gaps in Florida’s Wildlife Habitat Conservation System” by the Florida Game and Freshwater Fish Commission, (1994). The property is scenic and beautiful.

In recognition of the environmental quality of the property, the Developer has committed to implement land management practices equal to the minimum standards of the Audubon International Signature Program. Other best development practices and land management plans can be employed to mitigate some impacts to wildlife.

The Developer also recognizes that mitigation measures should be monitored via the Natural Resources Management Plan (NRMP), Integrated Pest Management, Water Conservation Management programs, etc. Mitigation measures will be discussed more specifically in each issue area of this Report.

Listed Wildlife Species Observed Onsite

Florida Sand Hill Crane	Little Blue Heron
Southeastern American Kestrel	White Ibis
Sherman’s Fox Squirrel	Snowy Egret
Gopher Tortoise	Tri-colored Heron
Gopher Frog	Wood Stork
Florida Mouse	American Alligator
Eastern Indigo Snake	

Listed Plant Species Observed Onsite

Tampa Butterfly Orchid	Cinnamon Fern
Green-fly Orchid	Rain Lily
Royal Fern	Leafless Beaked Orchid

**Table 12.1
Plant Communities and Land Uses on the Hickory Hill Property**

FLUCFCS Code	Community Type	Acreage	Percentage of Total Project Site
111	Residential	4.9	0.1
211	Improved Pasture	1,152.2	41.7
213	Woodland Pastures	209.8	7.6
215	Field Crops	264.5	9.6
420	Upland Hardwood Forest	411.3	14.9
427	Live Oak	56.5	2.0
434	Mixed Upland Forest	571.1	20.7
441	Coniferous Plantations	5.5	0.2
510	Ditches/Streams	2.4	0.1
523	Lakes	4.6	0.2
534	Reservoirs <10 Acres	0.1	<0.1
615	Stream & Lake Swamps	24.0	0.9
641	Freshwater Marsh	47.7	1.7
643	Wet Prairies	0.2	<0.1
644	Emergent Vegetation	1.1	<0.1
810	Transportation	1.0	0.3
821	Transmission Towers	1.0	<0.1
TOTAL		2,766±	100.00%

Source: Hickory Hill ADA, May 2005. Page 12-10.

The Developer intends to set aside habitat preserves within the Hickory Hill DRI. It is intended that some golf course areas will provide potential habitat for several listed species. The project will also include several parks and recreation areas that are for both passive and active recreation. Additional habitat may be in the form of constructed stormwater treatment ponds, ornamental ponds and wetland mitigation areas.

The biological survey required by the ADA, found 176 gopher tortoise burrows (130 active) on 365 acres. A site specific “rate of burrow occupancy” conducted indicates and estimates that Hickory Hill property could have approximately 748 gopher tortoises and 280 acres would be needed for their habitat mitigation. A total of 114 Florida Mice were captured during the sampling period. There are several methods to mitigate impacts which include: preservation on site, incidental take, onsite relocation/preservation, off-site relocation, or a combination of these options. Total onsite wildlife mitigation is the recommended method.

Preservation of onsite wetlands, wetland mitigation areas and creation of ponds will provide foraging areas for the listed wading bird species. Any nesting areas (rookeries) will be further protected by an appropriate setback buffer. Plans for wildlife species management should be established in cooperation with FWC.

The majority of the property exists as improved pasture land which is the preferred forage area for Sandhill Cranes. An inventory of flora and fauna was assembled by the Developer's biological consultant during pedestrian inspections conducted to evaluate the diverse habitats and during pedestrian and vehicular surveys conducted solely for the purpose of documenting listed species observed onsite.

Development of the proposed project is likely to displace several species of wildlife which currently utilize the site for foraging or hunting. The proposed development will negatively impact open pasture which is also preferred by birds of prey as foraging habitat. However, significant open space will remain as golf courses and dry retention. Natural forested areas will be preserved within the open space network and smaller stands will remain within the golf courses. Incorporation of on-site wetlands, other wetland mitigation areas and creation of additional ponds in the overall design of the development can provide opportunities for a connected habitat network.

The Developer intends to coordinate with the FWC during permitting, design and construction phases of the proposed project to determine appropriate offsite mitigation for impacted species that cannot be accommodated onsite. The site plan calls for development to occur almost entirely within upland areas of the project site. The Developer has committed to 1,110 acres of open space to be preserved within the development. The open space plan provides connected open spaces in a conservation network.

WRPC staff has participated in positive discussions with the development team regarding open space and wildlife impacts. The land management proposals are commendable and the development team has informally proposed site planning at a level much more respectful than other developers. However, neither the Application for Development Approval nor the Comprehensive Plan amendment materials accurately portray those representations made in informal meetings outside the DRI process. It is recommended that binding commitments be established.

Relative Goals and Policies from the Strategic Regional Policy Plan:

Goal 4.10 Reduce or mitigate the loss of habitat for endangered or threatened species in the region.

Policy 4.10.1 Identify potential habitat for endangered or threatened plants and animals through cooperative efforts with the water management districts, the Florida Natural Areas Inventory, state agencies, and local conservation organizations.

Policy 4.10.2 Examine sites proposed for development for the presence of listed species' habitat. Where members of such species are present, consult appropriate agencies and adopt plans that provide for the preservation of habitat, or appropriate mitigation, adequate to maintain existing and viable populations, as a condition for development approval.

Policy 4.10.3 Assist in the protection of habitat of threatened and endangered animals and plants with strategies and techniques that provide overall net benefits such as the transfer of development densities and flexible mitigation techniques. The taking of threatened or endangered species shall not be allowed unless this taking is mitigated by the preservation of a higher quality or larger size habitat area.

Policy 4.10.5 Confer with the Florida Natural Areas Inventory, the Florida Game and Freshwater Fish Commission, and the U.S. Fish and Wildlife Service when revising land use plans that might affect the habitat of threatened or endangered species of plants and animals.

Recommendation:

Withlacoochee Regional Planning Council recommends that the Developer commit to long-term protection of onsite habitat for the listed species found onsite. The Developer should be required to develop a Wildlife Habitat Management Plan (WHMP), and an Integrated Pesticides Management Plan (IPMP) in conjunction with the golf course management Plan. The WHMP and the IPMP should be submitted to the Florida Fish and Wildlife Conservation Commission (FWC) for review and approval prior to adoption of the DRI Development Order and prior to any development as defined in Chapter 380.06, Florida Statutes. The IPMP and the WHMP should be incorporated in the Comprehensive Plan and the Development Order. The WHMP should include management prescriptions for, at least, the proposed golf courses to provide suitable habitat within roughs and out-of-bounds areas, with the IPMP conditioned to disallow usage of pesticides and concentrations with a high toxicity to wildlife. The WHMP should include an estimated minimum acreage of roughs and out-of-bounds areas to be provided within each golf course, and stipulate other appropriate mitigation such as nesting sites or nest boxes. Protection activity during development shall also be included in the WHMP.

Required management for the fox squirrel should include the preservation of existing mature oaks and pines within the development site, especially the proposed golf courses, to maintain open park-like areas, with some supplemental planting of live oaks and longleaf pines in quantities great enough to support the onsite population.

As the presence of gopher tortoises is very likely in areas close to the project, a gopher tortoise survey should be performed for each phase of the project prior to development.

Certain wetland areas that are part of the WHMP may need a vegetative buffer greater than the 25 foot average buffer that is currently proposed.

Wildlife habitat areas should be designed to have connectivity to allow for a greater degree of habitat value over isolated areas of managed habitat. Dedications by conservation easement should be used to establish a primary conservation network to allow onsite and off-site travel to water sources, food sources, nest sites, etc., including the agricultural underpass at I-75. Onsite mitigation of all wildlife impacts is recommended.

Proper management of listed plant species should be coordinated with the Florida Natural Areas Inventory or other appropriate authority.

WETLANDS (Question 13)

The Hickory Hill property contains numerous small wetland areas at the lower elevations of the rolling topography. The wetland areas are usually fed by a small stream system that drains the hillside. Wetlands occurring as seepage slopes also exist on the property, but their future delineation as jurisdictional wetlands remains unclear at this time.

The development of the project as proposed is to maintain zero discharge of surface water to adjacent properties. Stormwater runoff will percolate back into the ground via onsite retention areas and wetlands. Preliminary geotechnical borings indicate that the existing groundwater elevation varies between 5' - 20' beneath the surface, generally paralleling to the existing grade except in areas where clay soils create perched conditions. These perched water tables along with the varying elevation of the groundwater table are the cause of the seepage slopes on the subject property.

The Developer has committed that all of the wetlands identified on the property will be preserved in their existing state and an average 25' buffer provided around them as required by the SWFWMD. A conservation easement will be established for each wetland during the Environmental Resource Permit (ERP) application process.

The Developer proposes that “swales” will be designed to catch the runoff before it enters wetlands and hold it for percolation through the soil. The Developer should be required to maximize the benefits of these vegetative swales by orienting landscape plantings toward nutrient uptake within the swale. Vegetated swales can reduce the nitrogen content of water entering natural wetland systems and thereby reduce the impacts of fertilization and future land application of treated wastewater.

Created, additional wetlands and stormwater ponds on the property will be employed to increase the stormwater storage and nutrient uptake capacity in wetlands, where nutrient uptake is a focus of the wetland or pond design. Nutrient uptake can be maximized in newly created wetlands by planting emergent aquatic and other littoral vegetation. Wetland plantings will also increase their habitat value and further mitigate wildlife impacts.

The Developer has committed to protection of wetlands during the development process as follows:

- Relative to construction activities adjacent to existing onsite wetlands, appropriate turbidity and erosion control measures will be implemented and maintained until such activities are completed and side slopes have been stabilized. Such techniques include the use of anchored silt fences, turbidity curtains, stacked hay bales, mulch, and sod along unstable slopes and embankments.

Relative Goals and Policies from the Strategic Regional Policy Plan:

Goal 4.8 Avoid adverse impacts to the natural functions of the region's wetlands or surface water systems from development and redevelopment.

- Policy 4.8.1 Coordinate regulatory programs to ensure that the ecological functions of the region's river systems are not degraded. Develop or enhance intergovernmental coordination strategies that will result in a cooperative approach toward the management, preservation, and protection of the region's wetlands and waterways, with special emphasis on those which cross jurisdictional boundaries.
- Policy 4.8.3 Ensure that plans, regulations, and management decisions consistently protect and enhance the following functions of the region's wetlands: open space, wildlife habitat, floodwater retention, and water quality enhancement.
- Policy 4.8.7 Incorporate small isolated wetlands into surface water management systems where doing so would facilitate their preservation.
- Policy 4.8.8 Design those stormwater and wastewater treatment systems that incorporate wetlands to mimic the hydroperiod necessary to support an undisrupted vegetative community and to match the wetlands' capacity to assimilate nutrients.
- Policy 4.8.11 Reserve an upland buffer zone adjacent to wetlands, lakes, rivers, streams, springs and sinks as a water quality, quantity, and habitat protection buffer within which primary and secondary impacts to the wetland from activities such as drainage, filling, pesticide application,

excavation, and construction are restricted. Define these buffer zones and the limits of all impacts to each feature's and buffer's function in a coordinated effort lead by local governments with assistance from the water management districts and the Departments of Environmental Protection and Community Affairs.

Policy 4.8.14 Manage new increments of sewage effluent and stormwater runoff so that they do not degrade the water quality of adjacent water bodies. Consider advanced treatment of wastewater to avoid accelerating the eutrophication of the receiving water body.

Recommendation:

The stormwater design and the golf course design should be planned to avoid impacts to existing wetlands by controlling stormwater runoff with buffer zones and vegetated swales. As required by the SWFWMD, buffer areas will encompass all jurisdictional wetlands. Conservation easements should be established to provide perpetual preservation of said buffers. In forested wetlands, existing forest should be encompassed within the buffer to preserve habitat value and nutrient uptake. The Integrated Pesticide Management Plan (IPMP) should consider the impacts to wetlands and take appropriate measures to prevent pesticide application to wetlands areas. Management and design of the Hickory Hill development should be planned to retain wetlands as low maintenance areas. Low maintenance areas could be golf course roughs and out-of-bounds, habitat management areas, or buffers, but generally should be free of the turf management practices used for fairway and residential lawn areas. Well known design principles and management programs such as Audubon International's - Signature Program, DEP's partnership - Florida Yards and Neighborhoods and the University of Florida - Institute of Food and Agricultural Sciences' - Build Green and Profit are programs the Developer may commit to in their effort to demonstrate appropriate levels of natural resource compatibility and suitability.

Both the DRI Application for Development Approval (ADA) and the concurrent, proposed Comprehensive Plan Amendment language speak to the principles described above. However, the general language used in both documents does not make specific, binding commitments to the degree needed to assure the mitigation of impacts. It is recommended that text for both be revised to be more predictable and measurable.

WATER (Question 14)

Surface Water

The Hickory Hill site generally is described as being a closed basin system and thus, surface water runoff from the property is held onsite. Ground elevations within the site range from approximately 58 feet to 240 feet. According to the Hernando County Soil Survey, the site has soil associations of Arredondo-Sparr-Kendrick which is described as being "nearly level to sloping, well drained and somewhat poorly drained soils that are sandy to a depth of 20 to more than 40 inches over loamy material". The ADA provides that the majority of the site contains soils with the hydrologic classification of "Group A". Group A soils have low runoff potential and high infiltration rates even when thoroughly wetted. Surface waters onsite are limited to small water bodies at the lower elevations of the site. Therefore, several recommendations for surface water management are provided under the wetlands recommendations.

Groundwater

The site area includes surficial aquifer system, intermediate confining unit, and the upper Floridan aquifer. The total thickness of the upper Floridan aquifer in the approximate site area is between 800 to 900 feet. Due to the karst geology of the region, the thickness of the sand varies from less than 2' to over 25'. Near the wetland areas, the depth of the water table is near or at the land surface as indicated by the subsurface soil borings conducted. In other areas of the site, the shallowest depth to water was 8' below the surface (with no groundwater

encountered in many of the borings at higher elevations). The surficial aquifer provides a source of water that recharges the upper aquifer via slow downward vertical leakage across the semi-confining clayey unit. Recharge of the Floridan aquifer is slowed by the semi-confining unit and also slowed by the localized clay lenses that precipitate the seepage slopes that typify the site. Water management district studies clearly depict the area as high recharge with a high DRASTIC index. The acronym DRASTIC represents an accepted system for measuring groundwater vulnerability.

The Developer's geologic consultant conducted a ground penetrating radar (GPR) survey on September 26, 2005. The survey was conducted to document the lateral continuity of soil layers and to identify areas of possible karst activity. The consultant's report states that, "GPR data is inherently limited in its predictive ability as it pertains to ongoing karst activity at the bedrock or confining layer interface". The one possible karst feature identified is a small depression on the western boundary of the site and at a high enough elevation to allow that the post-development stormwater system can avoid it. The Developer has committed to avoiding karst features and suspected fractures highlighted by photolineament analysis. Photolineament analysis, also known as fracture trace analysis, attempts to track fractures in geologic layers using an analysis that employs aerial photos. The analysis method is not recognized as conclusive, but should be performed as a part of sub-surface investigation. Relatively few fractures were delineated onsite.

Changes to land use will impact groundwater quality through changes in surface drainage patterns, introduction of potential contaminants that have not been present in substantial volume with prior land uses, and increased usage (with consequent potential discharge) of contaminants. These include an increase in the use of pesticides, fertilizers and herbicides on golf courses and in residential yards; an increase in the presence of oil, grease and other petroleum and automotive products due to increased vehicular traffic; and an increase in total suspended and dissolved solids due to the modified stormwater runoff patterns. The increase in stormwater runoff and associated increase in contaminants (i.e., automotive fluids, rubber tire residue and petroleum products), and the hydrologic connection to the Floridan aquifer can impact groundwater quality.

The Developer's commitment to incorporating best development practices equal to the Audubon International certification for the golf courses, and Florida Yards and Neighborhoods Best Management Practices for residential fertilizer/herbicide/pesticide usage, may mitigate the increase of nitrates expected to be introduced into the aquifer via stormwater flows. Wetland buffers and avoidance of vulnerable areas have also been committed.

Water quality treatment ponds will attenuate and treat stormwater runoff before discharging to the existing wetlands, waterways that are internal and adjacent to the project site. Drainage swales will also provide a filtration mechanism for pollutants prior to further discharge or percolation.

Furthermore, the proximity of County well fields has been brought into question, especially with regard to the increased pumpage of irrigation water in association with the golf courses. Potential impacts of the increased land use intensity have not been fully assessed at this time. With respect to the groundwater quality issue, a water quality monitoring program geared toward protection of drinking water supplies should be implemented through binding commitments from the Developer.

Relative Goals and Policies from the Strategic Regional Policy Plan:

- Policy 4.1.3 Design new development in high aquifer recharge areas to minimize impacts on aquifer recharge.
- Policy 4.1.9 Minimize environmental impacts from water withdrawals by keeping water pumpage below levels that would cause significant harm to native communities, spring flow, or water quality.

- Policy 4.1.11 Curtail or cease pumping whenever adverse environmental impacts are observed.
- Policy 4.2.3 Cooperate with water management districts in water conservation education, leak detection, and plumbing retrofit programs.
- Policy 4.2.4 Require efficient irrigation practices in all new development.
- Policy 4.2.5 Create incentive programs that reward installation of plumbing systems in new construction that will immediately use gray water systems or will facilitate the use of future gray water systems.
- Policy 4.2.6 Use treated wastewater effluent for irrigation, instead of freshwater, where it is feasible, environmentally sound, and safe.
- Policy 4.2.7 Adopt minimum landscape ordinances incorporating the use of drought-resistant native plants and assigned preference to the preservation of native vegetation on site.

Goal 4.3 Prevent further degradation and restore ground- and surface-water quality.

- Policy 4.3.1 Protect ground- and surface-water quality through the regulation of land use activities which may cause water pollution. Siting criteria and containment requirements should be established for: landfills, stormwater, wastewater, agricultural, and industrial impoundments, land application of wastewater sludge and effluent, use and disposal of pesticides, herbicides, fertilizer and other hazardous materials, and underground storage tanks.
- Policy 4.3.4 Require all development activities that create stormwater runoff to treat the water to meet state water quality standards before discharge.
- Policy 4.3.5 In new developments and redevelopment projects, design stormwater treatment systems to protect ground water as well as surface water.
- Policy 4.3.6 Retain vegetated buffer strips along the banks of regionally significant surface waters. Buffers should be of sufficient width to prevent erosion, trap the sediment in runoff, and filter out nutrients. Buffer width and vegetative material should be defined by local governments with assistance from the WMDs and DEP.
- Policy 4.3.7 In areas prone to sinkholes, protect groundwater from contamination through additional treatment of stormwater. Design surface water management systems in karst areas to avoid the collapse of retention and detention ponds. Prohibit untreated stormwater runoff from entering drainage wells and sinkholes directly connected to the Floridan aquifer.
- Policy 4.3.8 Include provisions in stormwater master plans for: reducing contaminant loads, treating runoff from areas where on-site retention is infeasible, improving systems that do not meet current standards, and maintaining the efficient operation of stormwater facilities.

Recommendation

The ability of soils underlying retention areas, and the proposed natural/physical pretreatment measures to eliminate or adequately reduce migration of contaminants and other constituents into surface water and ground water should be more quantitatively addressed. In addition, sufficient information should be provided to verify that state water quality standards will be met prior to discharge or percolation. Water quality monitoring parameters should be designed to more specifically address the contaminants/constituents of concern with regard to this proposed development. This information needs to be analyzed prior to the development of a water monitoring program in order to assess the potential and specific impacts. At such time as the potential impacts have been adequately modeled or projected, then appropriate mitigation measures can be instituted.

The Developer, recognizing the potential for groundwater impacts, has proposed several mitigation measures which include but should not be limited to the following:

- Should reclaimed water become available for irrigation purposes on the proposed golf courses, only urban effluent water sources will be used. The presence of potentially hazardous elements such as chlorine, boron, cadmium, copper, nickel, and zinc are generally monitored via the installation of monitoring wells.
- Fertilizer and pesticide/herbicide use on Hickory Hill's golf courses will be managed by professional greens keepers with experience in course maintenance and operation. These materials will be applied in strict accordance with the manufacturer's recommendations and guidelines established by the Institute of Food and Agricultural Sciences, University of Florida and the U.S. Environmental Protection Agency.

SOILS (Question 15)

A majority of the onsite soils are suitable for development. The ADA states that "no geologic features such as sand dunes, bluffs, sinkholes or springs are known to exist on the Hickory Hill DRI site". Stormwater runoff will be managed by a system which will route runoff into stormwater detention and treatment ponds before being discharged to existing waterways.

Recommendation:

Soil sedimentation and erosion during the development process should be controlled with erosion control measures which will be implemented and maintained until such activities are completed and side slopes have been stabilized. Such techniques include the use of anchored silt fences, turbidity curtains, stacked hay bales, mulch, and sod along unstable slopes and embankments. Methods for the control and suppression of fugitive dust during development activities should be included in the Development Order.

Due to the degree of elevation change on the land specific attention should be focused on a stormwater system design that prevents long-term soil erosion.

FLOODPLAINS (Question 16)

It is anticipated that some development such as roadway crossings, stormwater ponds, wetland mitigation areas, golf courses and other types of impact encroachments will occur within the 100-year floodplain. Habitable buildings will have finished floor elevations at or above the determined base flood elevation in accordance with the Hernando County Flood Damage Prevention and Protection ordinance.

Relative Goals and Policies from the Strategic Regional Policy Plan

Goal 4.4 Maintain the integrity and natural value of floodplains, and manage floodplains through non-structural means.

Policy 4.4.5 Follow natural hydrologic patterns for land drainage; prohibit land from being "reclaimed" by means of drainage activities.

Policy 4.4.8 Require that new or re-built habitable structures have the lowest floor elevated above the 100-year flood level.

Recommendation:

It is recommended that the development plan minimize any reliance on floodplain areas for access to the public roads system . Minimize all impervious surfaces within floodplain areas. Do not locate any dwelling units within flood prone areas.

WATER SUPPLY (Question 17)

The residential and commercial components of the development will be served by Hernando County water system. Hernando County Utilities Department has indicated that they do not have adequate capacity of potable water for the residential and commercial uses of the development and therefore is looking to the Developer to provide the needed potable water supply to the DRI (Exhibit 17-1 of ADA; letter dated March 14, 2005). The Developer has proposed the use of treated wastewater for irrigation of the golf courses and common areas. However, an adequate supply of treated wastewater is not available at this time, but the Developer and the County have made a conceptual agreement to use treated wastewater for irrigation when it is available. Until then, the Developer is proposing the use of well water for irrigation with supplementation from surface water reservoirs used to catch and store runoff and rainfall.

The Developer will practice water conservation methods throughout the development. Existing public awareness and demand for water conservation will allow the Developer to provide modern, efficient fixtures such as low flush toilets, low supply taps and showers, and irrigation systems that conserve water.

The Developer is still in the process of reaching a service agreement with the Hernando County Utilities Department and the Developer concurs that specific capital improvements necessary will be contained in the Utility Service Agreement.

Relative Goals and Policies from the Strategic Regional Policy Plan:

Policy 4.1.1 Provide infrastructure and approve development permits only for new developments that have identified a specific long-term supply of water that is both adequate for the increased population associated with the development and that will not diminish the ability to provide adequate water for the local government's projected population or the water needed by natural systems.

Policy 4.1.4 Adopt comprehensive programs and plans for protection of current and future public water supplies. Each plan and program should require, at a minimum: scientific delineation of zones of contribution for wellfields and protection of these areas from incompatible land uses and activities, analyses of supply and demand that are based on population projections and the

location of uses indicated on future land use maps (series), and the maintenance and restoration of natural systems.

- Policy 4.1.9 Minimize environmental impacts from water withdrawals by keeping water pumpage below levels that would cause significant harm to native communities, spring flow, or water quality.
- Policy 4.1.11 Curtail or cease pumping whenever adverse environmental impacts are observed.
- Policy 4.2.4 Require efficient irrigation practices in all new development.
- Policy 4.2.6 Use treated wastewater effluent for irrigation, instead of freshwater, where it is feasible, environmentally sound, and safe.
- Policy 4.2.9 Formulate water shortage contingency plans that are consistent with the plans of the water management district.
- Policy 4.2.11 Seek technical assistance from water management districts and regional planning councils in formulating and implementing water conservation plans.
- Policy 4.3.1 Protect ground- and surface-water quality through the regulation of land use activities which may cause water pollution. Siting criteria and containment requirements should be established for: landfills, stormwater, wastewater, agricultural, and industrial impoundments, land application of wastewater sludge and effluent, use and disposal of pesticides, herbicides, fertilizer and other hazardous materials, and underground storage tanks.
- Policy 4.3.2.b Provide for stormwater master plans that identify existing problems and solutions which promote pollutant load reductions through such methods as wastewater and stormwater reuse and retrofitting, and promote best management practices in agriculture and silviculture;
- Policy 4.3.3 Require new development to locate and construct impervious surfaces, buildings, lawns, and sewage facilities so that they do not adversely affect the quality of nearby surface waters.
- Policy 4.3.5 In new developments and redevelopment projects, design stormwater treatment systems to protect ground water as well as surface water.
- Policy 4.3.7 In areas prone to sinkholes, protect groundwater from contamination through additional treatment of stormwater. Design surface water management systems in karst areas to avoid the collapse of retention and detention ponds. Prohibit untreated stormwater runoff from entering drainage wells and sinkholes directly connected to the Floridan aquifer.
- Policy 4.8.11 Reserve an upland buffer zone adjacent to wetlands, lakes, rivers, streams, springs and sinks as a water quality, quantity, and habitat protection buffer within which primary and secondary impacts to the wetland from activities such as drainage, filling, pesticide application, excavation, and construction are restricted. Define these buffer zones and the limits of all impacts to each feature's and buffer's function in a coordinated effort lead by local governments with assistance from the water management districts and the Departments of Environmental Protection and Community Affairs.

Recommendation:

The Hickory Hill DRI site should be evaluated within the context of the full areal extent of the surface water and groundwater basins in which it is located. A monthly water balance (dry year and wet year) should be calculated for the site, to adequately quantify the temporal and volumetric nature of potential water shortages and surpluses. This should consider water availability via precipitation, surface water inflow, and groundwater inflow; and water losses via evapotranspiration, surface water outflow (now presumed to be zero), infiltration and consequent groundwater outflow, and pumpage.

Binding commitments for water conservation practices throughout the development should be formalized in the Development Order and/or the Comprehensive Plan, including water conservation appliances, drought tolerant landscaping, the minimization of high maintenance areas on the golf courses, education on the principles of the Florida Yards and Neighborhoods program and restrictions on high maintenance areas for the larger home sites.

Developer commitments for improvements to County utilities infrastructure that has been identified as being needed to maintain adopted levels of service should be included in the capital improvements plan.

WASTEWATER MANAGEMENT (Question 18)

The Developer is continuing to work with Hernando County Utilities Department to reach a mutually acceptable method to provide sewer service capacity to the DRI. Hernando County Utilities Department has indicated that they do not currently have capacity to service the proposed DRI and are looking to the Developer to provide the needed capacity (ADA Exhibit 18-1; letter dated March 14, 2005). The Developer has agreed to perform the necessary modeling required to serve the project. The Developer has proposed the use of treated wastewater for irrigation of the golf courses and common areas when it becomes available.

Relative Goals and Policies from the Strategic Regional Policy Plan:

- Policy 4.13.8 Encourage the utilization of reclaimed wastewater for irrigation of appropriate crops where feasible and where its use will not threaten groundwater quality.
- Policy 4.20.5 Identify areas where septic tanks are inappropriate, and implement strategies to improve the treatment level of wastewater.

Recommendation:

Utilize wastewater resources for irrigation of golf courses and common areas when available and make plans for the provision of treated wastewater in the development design and engineering documents.

Model and monitor groundwater characteristics to ensure that potable water resources are not degraded by the land application of treated wastewater.

Developer commitments for improvements to County utilities infrastructure that has been identified as being needed to maintain adopted levels of service should be included in the capital improvements plan.

STORMWATER MANAGEMENT (Question 19)

Changes to land use will impact water quality through changes in surface drainage patterns, introduction of potential contaminants that have not been present in substantial volume with prior land uses, and increased usage (with consequent potential discharge) of contaminants. These include an increase in the use of pesticides, fertilizers and herbicides on golf courses and in residential yards; an increase in the presence of oil, grease and other petroleum and automotive products due to increased vehicular traffic; and an increase in total suspended and dissolved solids due to the modified stormwater runoff patterns. The increase in stormwater runoff and associated increase in contaminants (i.e., automotive fluids, rubber tire residue and petroleum products), and the hydrologic connection to the Floridan aquifer can impact groundwater quality.

The Developer's commitment to incorporating best development practices equal to the Audubon International Signature certification for the golf courses, and Florida Yards and Neighborhoods Best Management Practices for residential fertilizer/herbicide/pesticide usage, may mitigate the increase of nitrates expected to be introduced into the aquifer via stormwater flows. Wetland buffers and avoidance of vulnerable areas have also been committed.

Internal collection systems such as storm sewers and inlets will be sized upon a 10 year storm event in accordance with Hernando County Subdivision Regulations. Major conveyance systems will be designed for the 25 year, 24 hour storm event in accordance with SWFWMD regulations. Stormwater quality will be managed via implementation of BMP such as: inclusion of silt screens, wetland buffers and incorporation of Storm Water Pollution Prevention Plan as required for NPDES permitting.

Relative Goals and Policies from the Strategic Regional Policy Plan:

Policy 4.3.7 In areas prone to sinkholes, protect groundwater from contamination through additional treatment of stormwater. Design surface water management systems in karst areas to avoid the collapse of retention and detention ponds. Prohibit untreated stormwater runoff from entering drainage wells and sinkholes directly connected to the Floridan aquifer.

Recommendation:

The likelihood of increased development of sinkholes and catastrophic collapse as a result of 1) increased infiltration from unlined portions of dry retention areas to dissolution of underlying limestone, 2) the attributes of wet retention areas, and 3) the dewatering of the upper portion of the aquifer (especially in areas with abundant dissolution cavities) certainly warrants further and particular attention.

Perform subsurface explorations to ensure that sinkholes are not formed by directing stormwater to highly permeable areas. Use water stored in lined retention areas for irrigation when water levels rise near the top of the protective liner to reduce concentrated percolation in sinkhole prone areas.

Results of GPR surveys for each major stormwater pond should be carefully evaluated. Findings should be utilized in land use suitability evaluation and in formulation of Development Order conditions. It would be wise to consider contingency plans in the event of unanticipated catastrophic collapse.

The County should request that the SWFWMD employ the SJRWMD design criteria for Sensitive Karst Areas (Ch. 40C-41.063(6), F.A.C), at a minimum, for stormwater management permitting.

SOLID WASTE / HAZARDOUS WASTE / MEDICAL WASTE (Question 20)

The ADA requires the inclusion of correspondence for solid waste service providers to assure the capability and capacity to serve the proposed development. Letter from Hernando County Utilities Department (ADA Exhibit 20-1) indicates no anticipated problems related to solid waste disposal issues.

If any medical offices choose to locate within the commercial component of the proposed DRI, the Developer will require the individual office/agency to dispose of their hazardous waste according to federal and state regulations.

Recommendation:

No additional conditions are recommended due to anticipated impacts on regionally significant resources or to more than one local government in the region.

TRANSPORTATION (Question 21)

The primary impact area for this development involves the transportation network generally within an 8 to 10 mile radius. Consistent with the approved transportation methodology, all roadways where the DRI was projected to consume 4.5% or more of the roadway capacity were analyzed.

Based on the submitted analysis all study area roadway segments currently operate at or better than their adopted Level of Service (LOS). In addition, all study intersections currently operate at or above their adopted Level of Service with the exception of the northbound left movement at the intersection of Cortez Blvd. and Lockhart Road which operates at LOS E in the PM Peak Hour.

The analysis did not include any additional improvements beyond those included in the base year transportation model.

The transportation analysis evaluates the impacts of the project traffic on the existing and future transportation system. Future background traffic volumes for Phase 1 and Phase 2 were determined using the Tampa Bay Regional Planning Model (TBRPM), with modifications as documented in the transportation methodology to account for other DRI's in the area. Project trip generation for Phase 1 and 2 were developed using the ITE Trip Generation Manual. The TBRPM was used to develop the distribution of project trips for this analysis. The analysis was conducted to determine where the project has significant and adverse impacts to the transportation system. Significance is determined where the project traffic consumes 5% or greater of the adopted level of service capacity. Adversity occurs where the facility is operating below the adopted level of service. Project mitigation is required where the project contributes significantly to the adverse operation of the facility.

As described previously, Hickory Hill DRI will be a primarily residential development with golf courses and a small retail/office component located near the intersection of Power Line Road and Lockhart Road south of I-75. The project was studied in 2 phases, Phase 1 spans through 2012 and Phase 2 spans through 2017. The internal capture rate identified was 15% for Phase 1 and 15% for Phase 2. No pass-by trips were assumed for this development. The following summarizes the net external trip generation of the proposed development:

	<u>Daily</u>	<u>AM Peak</u>	<u>PM Peak</u>
Phase 1	7,043	569	697
Phase 2	18,124	1,347	1,829

Based upon the initial screening several roadways were anticipated to operate in a deficient condition including sections of Cortez Blvd., Ayers Rd., CR 41 and Jefferson St. Additional, more detailed analysis was conducted for these roadways which indicated they would operate at an acceptable level of service.

Several off-site intersection improvements were identified as needed in conjunction with the proposed development. These improvements, and when they are anticipated to be needed, are identified in the table below.

**Off-site Needed Improvements
Table 1**

Location	Improvement	Percent of Phase One When Improvement is Needed	Percent of Phase Two When Improvement is Needed
SR 50 at Lockhart Road	Signalization	When Warranted <i>(estimated at 15%)</i>	n/a
	Lengthen Existing Northbound Left-Turn Lane	Concurrent with Site Access Permitting	n/a
	Construct Second Northbound Left-Turn Lane	Concurrent with Signalization	Concurrent with Signalization
	Lengthen Existing Westbound Left-Turn Lane	50%	n/a
Spring Lake Highway at Church Road	Signalization	n/a	When Warranted <i>(estimated at 20%)</i>
SR 50 at Cedar Lane	Signalization ⁽¹⁾	When Warranted <i>(estimated at 85%)</i>	n/a
Ayers Road at Culbreath Road	All-Way Stop ⁽¹⁾	When Warranted <i>(estimated at 60%)</i>	n/a
	Signalization ⁽¹⁾	n/a	When Warranted <i>(estimated at 20%)</i>
Curley Road at St. Joe Road	All-Way Stop ⁽¹⁾	n/a	When Warranted <i>(estimated at 20%)</i>

⁽¹⁾ Improvement necessary without Hickory Hill DRI.

Based upon the proposed development plan contained on Map H of the ADA submittal, four (4) access points are planned to connect the development to the roadway network. Two (2) main access points will occur on Lockhart Rd., one (1) north of I-75 and one (1) south of I-75. An additional access is proposed on Lockhart Rd.

closer to SR 50 that will function as a construction entrance and then as a service entrance. A fourth access to the development will occur off of Church Road. Additionally, in Phase 2, an overpass will be constructed over Hickory Hill Road connecting the northern and southern portions of the development. There will be no direct connection to Hickory Hill Road. The portion of the development east of I-75 will not have a direct vehicular connection to the portion of the development west of I-75. Needed site access improvements associated with the site are identified in the following table.

**Site Access Improvements
Table 2**

Location	Improvement	Percent of Phase One When Improvement is Needed	Percent of Phase Two When Improvement is Needed
Site Access Connection to Lockhart Road <i>(Primary Access North of Hickory Hill Road)</i>	Left and Right Turn Lanes	Concurrent with Connection Permit	n/a
Site Access Connection to Lockhart Road <i>(Secondary Access North of Hickory Hill Road)</i>	Left and Right Turn Lanes	Concurrent with Connection Permit	n/a
Site Access Connection to Lockhart Road <i>(South of Hickory Hill Road)</i>	Left and Right Turn Lanes	n/a	Concurrent with Connection Permit
Site Access Connection to Church Road	Left and Right Turn Lanes	n/a	Concurrent with Connection Permit

The development is proposed to be a private gated community. The ADA has stated that pedestrian and bicycle paths will be provided throughout the site. The ADA second sufficiency response states that connections will be provided for Hickory Hill DRI residents from the community to adjacent planned facilities. In addition, the existing 8 x 10 foot box culvert under I-75 that is currently used for agricultural operations, is proposed to be retained as a pedestrian/equestrian connection. No transit improvements are proposed in conjunction with this development.

Relative Goals and Policies from the Strategic Regional Policy Plan:

Goal 5.5 Provide transportation facilities to ensure that the regionally significant roadways operate at acceptable levels of service.

Policy 5.5.1 Level of service standards for regionally significant roadways should be consistent with the Florida Department of Transportation recommended level of service standards.

Policy 5.5.2 Perform timely maintenance, expansion, and repair of roads and bridges to minimize costly reconstruction and to enhance safety.

Policy 5.5.3 Encourage flexibility in the funding of transportation projects, including the construction and use of toll facilities and transit-based facilities and operations.

- Policy 5.5.5 Mitigation mechanisms, including but not limited to impact fees, should be used by local governments to mitigate the impacts of development on regionally significant roadways, including the State Highway System.
- Policy 5.5.6 Control development permit issuance to ensure that regionally significant roadways operate at acceptable levels of service concurrent with the impacts of proposed development.
- Policy 5.5.7 Access management controls on regionally significant roadways should be coordinated between the pertinent permitting agencies and local governments and consistent with F.A.C 14-96 and 14-97 in order to maximize operating capacity and improve the safety of regional roadways.
- Policy 5.5.8 Base comprehensive plan traffic circulation and transportation elements on the adopted plans of the Florida Department of Transportation and Metropolitan Planning Organizations in order to support a coordinated transportation planning process.
- Policy 5.5.9 Coordinate land use plans and transportation planning efforts to ensure that land use decisions and transportation improvements are complementary.

Goal 5.6 Future transportation development that avoids loss and fragmentation of environmentally sensitive areas, and degradation of water resources .

- Policy 5.6.1 Comprehensive plans' goals, objectives and policies shall protect water quality and natural resources from adverse effects of transportation activities in coastal high-hazard areas or in identified environmentally sensitive areas such as significant uplands, wetlands, floodways, or productive marine areas.
- Policy 5.6.2 Ensure that transportation improvements in coastal high-hazard areas and environmentally sensitive areas are made only after evaluating the interests of human transportation need versus the need to protect and preserve regionally significant resources.

Goal 5.8 Maintain adequate capacity on evacuation routes to complete movement of vulnerable populations prior to the onset of pre-landfall hazards .

- Policy 5.8.1 Place high priority on improvements to designated evacuation routes, and discourage development in areas with inadequate facilities for timely evacuations.

Recommendation:

Using the review criteria contained in Chapter 380, Florida Statutes, and 9J-2 FAC, existing Council policies, and input provided by other agencies, it is recommended that if the Hickory Hill Development of Regional Impact Application is recommended for approval that the following recommendations be considered within the Development Order:

It appears, based on comments contained in the review, that the issue of the capacity of unpaved roadways is not resolved. Capacity of these County roadways should be acceptable to Hernando County.

Highway Capacity Software / Highway Capacity Manual analyses were conducted for several roadways in the ADA analyses. Generally these tools are used to more accurately determine existing conditions,

taking into account specific operating conditions. The concern with using these for future conditions is that the specific operating conditions may change. Consistent with other DRI's in the region, it is recommended that the Development Order include a condition that requires annual monitoring of impacted facilities, most importantly those roadways that may also have adverse impacts. For the Hickory Hill DRI this would include, at a minimum, Cortez Blvd. from Jefferson Street to Cedar Lane in Phase 1 as well as the impacted intersections shown in Table 1 above. Annual monitoring for Phase 2 would be based on facilities identified as impacted in Phase 2, including Cortez Blvd., Ayers Rd, CR 41 and Jefferson St. The annual monitoring should include identification of all improvements needed or projected to be needed to mitigate impacts to the transportation system for each analysis period. The annual report should be required to look at impacts for three analysis periods - existing conditions, the next year of growth and 5 years of growth. All needed improvements to impacted facilities should be identified as early as possible to allow for planning of said improvements. Consistent with other DRI's in the region it is recommended that a monitoring and modeling study be required prior to the beginning of Phase 2.

The ADA has identified several improvements need to accommodate site access. The development order should also contain a commitment by the developer to provide any needed site access improvements or modifications necessary to accommodate access to the development.

Based on the Developer's response to comments regarding bicycle/pedestrian connections on page 33 of the second sufficiency response, the development order should contain a condition/commitment by the Developer to provide connections to the adjacent county/state bicycle/pedestrian facilities. This condition or commitment should also provide for internal bicycle/pedestrian facilities/amenities including connections to any future non-residential uses, especially given the provision of the bicycle/pedestrian crossing of I-75 via the existing box culvert.

This DRI is located on the Hernando/Pasco County line. Impacts to roadways in both counties were analyzed as part of the transportation study submitted with the Application for Development Approval. To facilitate planning for future needed improvements in and around this jurisdictional boundary all studies and/ or reports related to this DRI (such as the annual monitoring and the M&M study recommended previously) should identify Pasco County as a reviewing agency. Pasco and Hernando Counties may then use the information contained in these reports for concurrency and planning purposes.

AIR IMPACTS (Question 22)

The greatest potential sources of air impacts arising from the development are construction activities and automotive use. Fugitive dust from the initial grading and soil moving activities should be temporary in nature and will be controlled by following SWFWMD and NPDES regulations. Measures to be employed to minimize fugitive dust may include sodding, water sprinkling, seeding, mulching or planting landscaping material in cleared areas.

The ADA states that no detailed air quality modeling is required.

Recommendation:

No additional conditions are recommended due to anticipated impacts on regionally significant resources or to more than one local government in the region.

HURRICANE PREPAREDNESS (Question 23)

Proposed Hickory Hill DRI is not located within the Coastal High Hazard Area, Hurricane Evacuation Zone or Hurricane Vulnerability Zone and therefore the Developer plans no public shelter and states no mitigation of impacts is necessary. The Developer has ensured that they will make an effort to construct all recreation facilities to standards established by the American Red Cross for hurricane shelters.

Relative Goals and Policies from the Strategic Regional Policy Plan:

Goal 3.7 **Hurricane evacuation clearance times for the region shall be reduced by requiring that new developments not degrade the existing evacuation level of service as identified in the Withlacoochee Hurricane Evacuation Study.**

Policy 3.7.2 Ensure that development orders for developments of regional impact contain conditions which require mitigative measures for impacts on hurricane shelter capacity and hurricane evacuation times.

Policy 3.7.4 Newly proposed or expansions of DRIs, planned unit developments, subdivisions, and mobile home parks shall be reviewed by County emergency management officials prior to issuance of the final development order.

Recommendation:

The Developer should cooperate with the Hernando County Emergency Management Director in preparing, creating and maintaining an Emergency Plan and decision making guide including provisions for shelter assignments, communications and warning systems. These provisions should include the needs of “special needs” evacuees living in the development.

HOUSING (Question 24)

Hickory Hill DRI is a residential golf community with a limited amount of commercial and targets to households of all ages. Golf and retail jobs are estimated at 22 for both phases. The analysis provided in the development summary shows that a great majority of the jobs fall under the very low income category.

Mitigation for affordable housing impacts in a DRI is based on the ability of employees of onsite businesses to have a sufficient supply of affordable housing available within a 10 mile radius or a 20 minute drive.

Based on the distance and travel time from the inventory of affordable housing units in the Brooksville area, a sufficient supply of affordable housing currently exists.

Recommendation:

No additional conditions are recommended due to anticipated impacts on regionally significant resources or to more than one local government in the region.

POLICE AND FIRE PROTECTION (Question 25)

Correspondence from the Hernando County Sheriff’s Office (ADA Exhibit 25-1) indicates that the Office does not have resources to provide adequate services to the proposed project area and will need to request funding from Hernando County.

No response has been received from Hernando County Fire Rescue to indicate that they will be able to serve the proposed project site related to fire and EMS services.

Recommendation:

Include conditions for adequate facility and equipment improvements and additional personnel in the Development Order. Development Order conditions should, at a minimum, maintain the existing level of response and ensure that the County’s current ISO rating is maintained or improved.

RECREATION AND OPEN SPACE (Question 26)

Hickory Hill DRI will have a variety of recreational amenities including golf, tennis, equestrian and pedestrian trails, swimming, a gym, and various cultural and social activities as a function of the community center/clubhouse. The proposed open space/recreation areas contain approximately 1,100 acres which contain both active and passive recreation opportunities. The Developer will be paying all applicable impact fees to ensure parks and open space LOS standards are maintained.

Recommendation:

No additional conditions are recommended due to anticipated impacts on regionally significant resources or to more than one local government in the region.

EDUCATION (Question 27)

There are no school facilities on site. The School Board of Hernando County has indicated that this DRI will result in a significant impact to the Hernando County school system with the addition of 595 new students. The Developer needs to address the concerns and mitigation options presented by the School Board of Hernando County.

**Table 27.1
Estimated School Age Population**

Phase	Land Use	Size	Generation Factor (1)	Estimated Number of Students
Phase 1	Single Family Residential	800 units	0.34 students/household	272
Phase 2	Single Family Residential	950 units	0.34 students/household	323

Source: Hickory Hill ADA, May 2005; Fishkind & Associates, Inc. data from FL DOE & BEBR

The proposed DRI will generate approximately 595 students at project buildout and will be allocated as shown in the following table.

**Table 27.2
Student Allocation by Level**

Phase	Elementary (45.22%)	Middle (34.64%)	High (20.14%)	Total Number of Students
Phase 1	121	100	51	272
Phase 2	144	119	61	323
Totals	265	218	112	595

Source: Fishkind & Associates, Inc. data from 2003-2004 School Year for Hernando County

Recommendation:

No additional conditions are recommended due to anticipated impacts on regionally significant resources or to more than one local government in the region.

HEALTH CARE (Question 28)

The nearest hospital is Brooksville Regional Medical Center located west of Brooksville.

Recommendation:

No additional conditions are recommended due to anticipated impacts on regionally significant resources or to more than one local government in the region.

ENERGY (Question 29)

The DRI is located in the Withlacoochee River Electric Cooperative (WREC) service area. Sources of WREC power is coal and gas. Power is also purchased from other sources by WREC. The DRI does not propose any onsite electrical generating facility. WREC has indicated their ability to provide electric power needs to the proposed development. WREC may require the DRI to construct an electric substation.

HISTORICAL AND ARCHAEOLOGICAL SITES (Question 30)

The cultural resources assessment survey indicates two historical sites on the property which the Department of State - Division of Historical Resources has indicated are eligible to be listed on the National Register of Historic Places. Further archaeological investigation and mitigation is necessary. The Developer has committed to perform additional investigations.

Recommendation:

In the event of discovery of any archaeological artifacts during project construction, the Developer shall stop construction in that area and immediately notify the County and the Division of Historical Resources of the Florida Department of State. Proper protection complying with local ordinance shall be made to the satisfaction of the County and the Division of Historical Resources, and shall be provided by the Developer.

SUMMARY OF RECOMMENDATIONS:

The purpose of this report and recommendations to the local government is to identify the regional impacts that are expected to occur should the proposed project be developed. Recommendations regarding the various issue areas relevant to the Hickory Hill DRI appear throughout this document. The following is a brief summary of those recommendations. In carrying out these objectives, the report, through its recommendations, suggests opportunities to eliminate or mitigate negative impacts that are expected to occur and, where possible, to enhance the positive features of the proposed development. In preparing its report and recommendations, the regional planning agency shall identify regional issues and make recommendations to the local government on these regional issues.

1. The proposed development will have an unfavorable impact on state and regional resources and facilities identified in the applicable state or regional plans.

Water Resource Impacts

The Hickory Hill DRI site should be evaluated within the context of the full areal extent of the surface water and groundwater basins in which it is located. A monthly water balance (dry year and wet year) should be calculated for the site to adequately quantify the temporal and volumetric nature of potential water shortages and surpluses. This should consider water availability via precipitation, surface water inflow, and groundwater inflow; and water losses via evapotranspiration, surface water outflow (now presumed to be zero), infiltration and consequent groundwater outflow, and pumpage. In addition, hydrogeologic cross-sections, and both pre- and post-development water table/potentiometric surface contour maps should be provided, as they would greatly aid in evaluating potential impacts and remedial measures. These analyses should be done in cooperation with SWFWMD.

Proposed peripheral land uses within the surface water and groundwater basins such as existing and future Hernando County potable water supply wells should be included in the water study. The potential cumulative impacts of future land use and development such as land application of wastewater effluent should also be considered. Until such an analysis is performed, it is not possible to fully quantify the impacts, or to determine the mitigative measures required to offset them. A groundwater monitoring program to protect the long-term viability of public water supply is recommended. The monitoring program should be approved by DEP.

The stormwater design and the golf course design should be planned to avoid impacts to water resources by controlling stormwater runoff with buffer zones and vegetated swales. As required by the SWFWMD, buffer areas will encompass all jurisdictional wetlands. Conservation easements should be established to provide perpetual preservation of all buffers. The sloping nature of the land provides opportunities to create “treatment trains” where a system of smaller stormwater ponds can be blended into the landscape to progressively treat and discharge stormwater. In this way runoff is much cleaner prior to reaching a water body or an area of concentrated percolation.

Wildlife Impacts

Withlacoochee Regional Planning Council recommends that the Developer commit to long-term protection of onsite habitat and biodiversity for the listed species found onsite. The Developer should be required to develop a Wildlife Habitat Management Plan (WHMP), and an Integrated Pesticides Management Plan (IPMP) in conjunction with the golf course management Plan. These documents should be incorporated into the Development Order and Comprehensive Plan.

2. The development will significantly impact adjacent jurisdictions.

Transportation Impacts

This DRI is located on the Hernando/Pasco County line. Impacts to roadways in both counties were analyzed as part of the transportation study submitted with the Application for Development Approval. To facilitate planning for future needed improvements in and around this jurisdictional boundary *all studies and/or reports related to this DRI (such as the annual monitoring and the M&M study recommended previously) should identify Pasco County as reviewing agency.* Pasco and Hernando Counties may then use the information contained in these reports for concurrency and planning purposes.

3. The development will favorably or adversely affect the ability of people to find adequate housing reasonably accessible to their places of employment. (No significant impact)

In accordance with these analyses, conclusions and mandates, this report presents the staff recommendations of the Withlacoochee Regional Planning Council concerning the proposed Hickory Hill Development of Regional Impact, to be located in Hernando County, Florida.